THE

STUDENT'S GUIDE

THROUGH THE

ACTUAL BUSINESS DEPARTMENT

OF

ONTARIO COMMERCIAL COLLEGE,

BELLEVILLE, ONTARIO.

"Labor Omnia Vincit."

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Student's Guide

ONTARIO COMMERCIAL COLLEGE

TO THE STUDENT.

☞ Read all instructions carefully before commencing work.

You are now about to carry into practice the knowledge obtained in that portion of the course already completed.

It is supposed that you now possess the qualifications necessary for the proper prosecution of your business, therefore you are furnished with nothing but a "Guide" to direct you what transactions to perform, and thrown upon your own resources.

Your record thus far, shows that you have won for yourself *promotion* through perseverance and honest endeavor ; your continuance in the path of well doing is asked, so that when you have completed the work assigned in this department and passed your final examinations, you will merit and receive the testimonial awarded to all *Good* and *Faithful Students*.

If you find difficulties to contend with, do not become discouraged, or grow faint-hearted, but grapple with them, firmly resolved to surmount every opposing obstacle, and with perseverance you must succeed. The great difference between men, between the feeble and the powerful, the great and the insignificant, is *energy—invincible determination*—a purpose once fixed, then death or victory.

Your previous training has qualified you to execute your work in a neat business-like style, therefore this will be exacted of you. Do nothing without system. Method furnishes the key to all true progress. Order and neatness should constitute your talisman. " A place for everything and everything in its place" should be your motto and your rule. Blots and erasures in your books will stand as so many accusing spirits, charging you with slovenliness and want of care ; while errors and omissions in your record from this forward, cannot be excused but will be marked against you. Let your con-

stant aim be to secure an easy, elegant hand-writing. This is essential to every acceptable accountant, and when once acquired is of itself a valuable capital at starting out on the great highway of life and bespeaks for its possessor characteristic ability, and also gives evidence of other cardinal qualifications, viz.: carefulness, method and exactness. If you are not already a good penman devote every spare moment of your time to practise until you have accomplished your object.

As you are soon to go out into the business world, let it be impressed upon your mind, and ever keep before you this fact :— " The three great requisites of honor and wealth are, *Honesty*, *Industry*, and *Perseverance*."

GENERAL DIRECTIONS.

On entering the Practical Department your attention is first called to the Sample Depository, in which you will find a sample of every description of merchandise used in the College, with the price or worth of the same marked thereon.

Previously to purchasing your Stock of Goods, you should carefully study and thoroughly understand the contents of this Depository, so that when comparing your goods with the samples therein, you can at once correctly decide upon their kind, quality and present value.

Each partner admitted into the firm must invest, at least, $200.

No shipment of Mdse. of less than $100 will be received at the Emporium.

Commission of over *three* per cent will not be allowed, unless by mutual agreement between the parties.

Any person owing you, finding it necessary to adjust the debt before called for by " Guide," you will file the bill with money, until proper time of settlement arrives, then write up the transaction.

All documents requiring the revenue stamp must receive it, and all business papers except Bills Receivable and Bills Payable must

be properly filed according to the following rules :—

1st, the name of the paper ; 2nd, the name of the person or company it is from ; 3rd, the date ; 4th, the amount, in the lower right-hand corner.

In filing receipts always state what the receipt is for. All filing should be written in a small, plain hand without shading or ruling.

Check and mark " Ex." with your initials all Bills of Mdse., Invoices and Acc't Sales.

Interest must be computed on all notes bearing interest.

All notes made payable at Bank must be met at maturity, otherwise the Bank will exact two per cent more than the original amount due.

When you have a note discounted at the Bank, see that it will not fall due on Saturday, Sunday or a Holiday.

Without previous permission from the principal, you must not deviate from the directions given in this "Guide."

☞ Never accept any paper which is carlessly written, or which is not properly made out, or you will have to copy it after your work is handed in for examination.

RULES TO BE OBSERVED.

1. The work of each set must be performed on blotters first, and presented for examination before entering in regular books.

2. All errors marked in books or blotters must be corrected and approved of by the Examining Principal before entering another set.

3. All sets except Forwarding and Commission, must close with at least three resources and three liabilities and an inventory of Merchandise.

4. A statement and balance sheet will be required with each set.

5. Cash account must be closed at the end of each day's business and the Bank account balanced at the close of each set.

6. All transactions must be actually performed and posting done daily.

7. Any student leaving the department without settling all accounts with fellow students and the College, will be publicly exposed, his scholarship cancelled, and an account of the same sent to his parents. If your creditors are not present when you wish to settle with them, leave the amount with one of the teachers for them.

8. Accept no Merchandise that has been used as a pen-wiper as you will have to lose the amount.

SET FIRST.

You will now commence your transactions in accordance with the following order of duties. except that you will not be restricted to these alone, but may perform as many in addition as the circumstances of your business demand.

The books used in this Set are, Complete Account Book, Memorandum Book and Bill Book. The Business to be conducted at Belleville, Ont. The real value of a currency dollar is half a cent, at this it will be redeemed.

ORDER OF DUTIES.

1. Lease a store from the Real Estate Agent, for the purpose of conducting the Dry Goods and Grocery Business at $400 per annum payable quarterly in advance.

2. Open your books by entering the above transaction in the Memorandum Book, and page them.

3. Make a memorandum of the amount of capital invested and all particulars.

4. Engage some person as Accountant and 4 or 5 others as clerks, making memorandum of the same.

5. Deposit cash in the Bank. *You will keep no Ledger account with the Bank in this set.* Enquire of teacher how to manage it.

6. Advertise your business in daily and weekly papers, and pay for same per check, Draw up your form of advertisement and have it approved of as it will be required with your business paper.

7. Order by letter from Merchants Emporium a stock of goods not less than $200 worth.

8. Purchase 4 tons of coal for use in Store, and pay for same per check.

9. Have your note at 3 months discounted at Bank, and receive cash $50.

All endorsements must be *bona fide,* as the endorser will be held responsible in case the maker fails.

Having passed through the foregoing preparatory transactions, you will now commence making purchases and sales according to the following :—

ORDER OF BUSINESS.

1.	Buy on account mdse. not less than	$50
2.	Sell " " "	50
3.	Buy for note at 3 mos. mdse. amounting to at least	70
4.	Sell " " " "	70
5.	Buy for cash mdse. not less than	100
6.	Sell " "	80
7.	Buy on account	70
8.	Sell "	50
9.	Buy for draft at 10 days' sight mdse.	100
10.	Sell " " "	80
11.	Buy for check	150
12.	Sell " mdse. not less than	100
13.	Pay No. 7 per check.	
14.	Receive from No. 8 check to balance account.	
15.	Ship to some merchant to be sold on your account and risk, mdse. amounting to at least $100.	

16. Receive from some merchant a consignment of mdse. to be sold on account and risk of Consignor, not less than $100.
17. Sell the goods belonging to the above consignment or assume them, and render account of sales.
18. Inventory the goods on hand and carry them into the next set.
19. Settle with your clerks, for services to date.
20. Place all notes held by you in the Bank for collection, and have them placed to your Cr. Have your Bank Pass Book written up at the Bank.

Having finished the foregoing transactions and posted your work take off a Balance Sheet.

☞ *You must have at least three resources and three liabilities at the close of each set.*

SET SECOND.

Your place of business, while performing the transactions of this set, will be Kingston, Ont.

The books required are Invoice Book, Journal Day Book, Cash Book, Bill Book and Ledger.

You will continue the Dry Goods, Grocery and Shipping business, with the *resources* and *liabilities* of set 1st, as shown by the balance sheet and statement.

After posting the *assets* and *liabilities* of the previous set take off a trial balance. If correct you are ready to commence the following transactions.

1. Admit into the firm a partner who shares gains and losses according to capital invested.
2. Buy of the Real Estate Agent, a store and fixtures, give in payment your note for one half, payable at his office, and cash for the balance.
3. Deposit in Bank.

4. Buy a bill of mdse. not less than $100. Give in payment check for one half and cash for balance,

5. Receive a consignment of Merchandise.

6. Have your endorsed note discounted at the Bank, for net of which receive cash.

7. Make a Shipment in Co. paying freight.

8. Sell the consignment per No. 5 for joint and several not payable at Bank.

9. Buy Merchandise not less than $150. Give in payment joint and several note.

10. Have note per No. 8 discounted and receive cash for net.

11. Buy a bill of goods and give in payment check on Bank.

12. Sell on account.

13. Buy on account.

14. Receive an account of sales of Shipment Co. per No. 7, if the goods have been disposed of.

15. Pay No. 13 with time draft on person owing per No. 12.

16. Receive a Mdse. Company.

17. Buy Mdse. Give in payment your note at 3 mos.

18. Add at least $100 worth of Mdse. to Mdse. Co. per No. 16.

19. Sell one half the goods belonging to Mdse. Co. "A" for cash, and assume the remainder.

20. Make a joint shipment.

21. Render account of sales of Mdse. Co. "A."

22. Make partial payment on note per No. 17, and have the same properly endorsed thereon.

23. Remit amount due consignor per Mdse. Co. "A."

24. Redeem all notes due, and let all other accounts remain until the opening of the next set.

25. Ascertain the amounts due your employees, and pay them also in next set.

26. Take an Inventory of all effects at present worth, and a distinct Inventory of all mdse. belonging to Mdse Co.'s and consignments.

27. Take off Balance Sheet, and present your work for examination.

SET THIRD.

The books required are Journal Day Book, Invoice Book, Sales Book, Cash Book, Bill Book and Ledger.

The business of this Set will be conducted in Montreal, P. Q. Open your books with the *assets* and *liabilities* of set second, as shown by Balance Sheet and Statements.

Admit into the firm two more partners with cash capital of at least $100 each.

The gains and losses in this set are to be divided in proportion to capital invested ; each partner to receive a salary of $500, per annum.

After making proper entries of the *resources* and *liabilities* of previous set, take off Trial Balance to prove your work to be correct.

1.   Make proper entries of amounts deposited by admitted partners.

2.   Receive a consignment to be sold on account and risk of shipper.

3.   Receive a Mdse. Co.

4.   Buy mdse. for check one half, balance on account.

5.   Sell consignment No. 2.

6.   Make shipment on your own account and risk.

7.   Make a Shipment Co. paying freight in advance.

8.   Assume one half the goods belonging to Mdse. Co. per No. 3, and sell the remainder.

9.   Render account of sales of consignment per No. 2 remitting the amount of net proceeds per check.

10.   Sell your interest in Shipment Co. per No. 7.

11.   Sell mdse. for check one half, balance on account.

12.   Sell goods for note payable at Bank.

13.   Render account of sales of Mdse. Co. per No. 3, remitting net proceeds.

14.   Receive consignment to be sold on account and risk of shipper.

15.   Sell goods for check.

16.   Receive a Mdse. Co.

17.   Buy mdse. for note at 3 mos. one half, balance on account.

18.   Settle with creditor per No. 4 by giving him Draft on person owing you per No. 11.

19.   Make a joint shipment.

20.   Sell Mdse. Co. per No. 16 for cash one half, note for balance.

21.   Have note per No. 12 discounted at Bank and net placed to yonr Cr.

22.   Dispose of all Mdse. Co.'s and consignments not closed, and remit proceeds.

23.   Receive all amounts due you on shipments both joint and sole, and dispose of all property on hand.

24.   Redeem all notes due at the Bank or elsewhere.

25.   Settle all amounts due, and proceed to close your Books by paying off all liabilities and converting all resources into cash.

Having completed the foregoing work and passed all the examinations, you will be admitted to the Graduating Class.

STOCK EXCHANGE.

A Stock Exchange, or a Board of Brokers, is an association of brokers organized for the purpose of transacting the business of buying and selling stocks and bonds.

Exchanges are established in the leading cities, and, through the members, acting as agents for their customers, and on their own account, sales and purchases of stock are mostly made.

Every association prescribes its own rules and regulations, which are stringent, and rigidly enforced. Members are elected by ballot.

The qualifications for membership are, in general, good character and standing, and solvency. A certain term of residence in the place, and a steady prosecution of the business of a stock and exchange broker, for a specified period, are also requisite.

The fee for admission is generally very high, especially in the United States, in New York, it is $10,000; in Philadelphia, $5,000; in Boston, $2,000. A membership is transferable, and passes by descent, in case of the death of the holder.

The word of a member with regard to any contract, made during the sessions, must be as good as his bond.

A member failing to comply with his contracts, loses the privileges of the Board, and, in case of insolvency, he must make satisfactory arrangements with his creditors, in accordance with the rules, before he can be reinstated.

The Board holds daily sessions, at which the stocks in the market are called by the president, or clerk. "Bids" and "offers" are made, and the word "sold," or "take," binds the bargain, which is recorded by the secretary.

The rates of commission that may be charged for buying and selling are fixed by the Boards. $\frac{1}{4}$ per cent., or 25 cents on every $100, is the usual charge on Stocks and Bonds; except stocks selling at $5, or under, per share, on which a charge of from $2\frac{1}{2}$ to $6\frac{1}{4}$ cents per share may be made.

Stock Exchange Terms and Phrases.

To "sell short," is to contract to deliver a certain amount of stock, at a fixed price, within a specified time, when the seller has not the stock on hand. The "Shorts" are nicknamed "Bears," from the habit of these animals to tear, or pull down with their claws. They sell at the ruling prices when they believe there will be a decline in the market, and then operate to depress prices as much as possible, so as to buy at a lower figure, deliver the stock, and pocket the "difference."

To " buy long," is to contract to purchase stock, deliverable within a stipulated time, in anticipation of a rise in the market. The " Longs" are nicknamed " Bulls," from the propensity of these animals to toss with their horns. Their interest is to raise prices as much as possible, in order to sell and make a profit.

A " corner" is the result of certain operations between these opposing parties. When it becomes known that there is a large number of " short contracts" out in a certain stock, advantage is taken of the fact by the buyers, who purchase all the floating shares they can get hold of, so that when the time arrives for the fulfilment of their contracts, the holders have the " Shorts" at their mercy. The latter are compelled to purchase at greatly advanced prices, and are " cornered," unless by sharp practice they can " break down the corner," when their opponents are beaten, and lose by the operation.

A " time sale," or " purchase," made simply with a view to speculate in the " margin," or rise or fall in prices, without any design to actually deliver or take the stock, requires no investment, except to cover the margin, and even this is not always demanded of known and responsible parties. A contract is made to buy, for instance, a certain number of shares of stock at a fixed price, within so many days. The broker acts under instructions, and if a favorable opportunity occurs before the expiration of the time, he sells and settles with his customer, allowing interest on his deposit, if he has made any, and charging him interest on the cost of the stock for the time he has " carried" it, and his brokerage. If the stock has advanced beyond these charges, the speculator makes the difference. If it has declined he loses, and the deposit is taken to make good the loss ; or, if no deposit has been made, the purchaser is called upon to pay the difference, which is transferred to the pocket of the seller. This is what is sometimes opprobriously termed " Stock Gambling."

A " put," or " call," is a contract whereby, for the payment of a small sum of money, one dealer may require another to take or deliver, within a limited time, say one day, a certain amount of stock at a stated price.

EXAMINATION PROBLEMS.

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A variety of arithmetical problems are here appended among which are some examination papers given to former graduates. You should work them all over carefully, and thoroughly understand them, before attempting to pass your final examination in arithmetic, as they will give you an idea of the nature of the questions you may expect in connection with that examination.

1. A broker bought stock at 20% above par, and sold it at 20% below par : what per cent of the cost did he lose ? *Ans.* $33\frac{1}{3}$ *per cent.*

2. Bought a cask of wine containing 42 gallons, at $2.50 per gallon, and 12 gallons have leaked out : at what price per gallon must I sell the remainder, to gain four per cent. on the first cost ?
Ans. $3.64.

3. Bought 100 barrels of flour at $8.10 per barrel, and sold 90 barrels for what the whole cost. If I sell the remaining 10 barrels at the same price, what will be my total gain and my gain per cent.?
Ans. $90 ; $11\frac{1}{9}$ *per cent.*

4. A merchant sold a piece of goods which he had marked 25 per cent. above cost, at 20 per cent. discount from his marked price, thinking he should still make a profit. Did he gain or lose ?
Ans. neither.

5. A grocer sold raisins which cost him $4 per box, at $3.50 per bo x : how much was the loss per cent. ? *Ans.* $12\frac{1}{2}$.

7. Sold flour at $9 per barrel, which was ten per cent less than the original cost. What would have been the gain per cent. if it had been sold at $10.50 ? *Ans.* 5 per cent.

7. A gentleman sold two house-lots at $1200 each. On one he gained 20 per cent, and on the other he lost 20 per cent. Did he gain or lose by the transaction, and how much ! *Ans.* lost $100.

8. A speculator bought 200 shares of railroad stock, at $96 per share. He sold 100 shares of the same at a gain of 5 per cent., and the other 100 shares at a loss of 5 per cent. Did he gain or lose by the operation, and how much ? *Ans. neither.*

9. What per cent. advance on the cost of goods must I ask in order to deduct 10 per cent from the asking price, and still make a profit of 10 per cent ? *Ans.* $22\frac{2}{9}$.

10. A merchant purchased cloth at $3.50 per yard, less 5 per cent. for cash. What was the net cost per yard, and what per cent. must be added to the invoice price, to give a profit of 10 per cent.?

Ans. 4½.

11. A firm, having failed in business, owes to A $1975, to B $4250, to C $1682, and to D $1140. Their assets, less expenses of settlement, amount to $2397.45. What per cent. of their indebtedness can they pay? What dividend will each creditor receive?

Ans. A $523.37 ; B $1126.25. : 26½ per cent.

12. I bought a lot of coffee at 12 cents per pound. Allowing that the coffee will fall short 5 per cent. in weighing it out, and that 10 per cent. of the sales will be in bad debts, for how much per pound must I sell it to make a clear gain of 14 per cent on the cost?

Ans. 16 cents.

13. What must be the asking price of raisins costing $7.364 per box, that I may fall 10 per cent. of it and still gain 10 per cent. on the cost, allowing 10 per cent. of sales to be in bad debts?

Ans. $10.

14. I bought a horse of Mr. A for 15 per cent. less than it cost him, and sold it for 30 per cent. more than I paid for it. I gained $15 in the transaction. How much did the horse cost Mr. A? How much did it cost me? For what did I sell it? *Ans.* to last, $65.

15. By selling Java coffee at 18 cents per pound I make a profit of 20 per cent., for how much must I sell it to make a profit of 16⅔ per cent.?

Ans. 17½ cents.

16. The cost of purchasing and transporting a quantity of goods from Montreal to Manitoba is 9 per cent. of the first cost of the goods. If a merchant in Manitoba wishes to make a profit of 25 per cent. on the full cost of the goods, what per cent. gain on the *first cost* must he ask for them? What amount of goods must he purchase in Montreal to realize a profit of $3625 on the *first cost?* What would be the real profit on full cost? *Ans.* to the last $2725.

17. What must be the asking price of cloth costing $3.29 per yard, that I may deduct 12½ per cent. from it, and still gain 12½ per cent on the cost?

Ans. $4.23.

18. A wool merchant in Belleville remitted to his correspondent in Montreal the proceeds of a consignment, amounting to $2453.75, per draft, which he purchased at the expense of the consignor, at 1½ per cent. premium : what was the amount of the remittance, his commission being 2½ per cent.?

Ans. $2357.08.

19. Received and sold for John Smith, Montreal, 15 sacks of wool. The gross proceeds were $1433.78, and the charges were as follows: Freight, $104.03 ; Drayage, $1.50 ; Wharfage $\frac{1}{8}$ per cent.; and my Commission 5 per cent. on the sales : what were the net proceeds ?   *Ans.* $1254.78.

20. A has a hog weighing 300 pounds, and B has another weighing 500 pounds. C buys both hogs, weighed together, for 5 cents per pound. The three men agree that A.'s hog is worth $\frac{1}{2}$ cent more per pound than B.'s, and shall be paid for at that rate : how much per pound will A and B each receive for his hog ?

Ans. A $5\frac{5}{16}$ cts.

B, $4\frac{13}{16}$ cts.

21. The lessee of certain premises sub-lets the same to another person, at a rent of $500 more than he pays : what is his lease worth if it to continue 5 years reckoning compound interest at 7 per cent.?   *Ans.* $2050.09.

22. A merchant ships $31360 worth of wheat from Hamilton to Montreal. For what must he get it insured at 2 per cent. so as to *cover* both the value of the wheat and the premium paid for its insurance ?   *Ans.* $32000.

Explanation.—Since the policy is to cover both the value of the wheat and the premium, and, since the premium is 2 per cent., or $\frac{2}{100}$ of the amount covered by the policy, the value of the wheat must be $\frac{98}{100}$ (or 98 per cent.) of the sum insured. $31360 is $\frac{98}{100}$ (98 per cent.) of what ?

23. For what must a cargo of R. R. iron worth $115200 be insured to cover both the value of the iron and premium, the rate of insurance being 4 per cent.?   *Ans.* $120000.

24. A merchant shipped a cargo of flour worth $47880 from London to Montreal via Belleville. To insure it from London to Toronto he paid $1\frac{1}{2}$ per cent. ; from Toronto to Belleville $\frac{1}{4}$ per cent.; from Belleville to Montreal $3\frac{1}{4}$ per cent. For what sum must it be insured to cover value of flour and premium for the voyage ?

Ans. $50400.

25. A policy covering property and premium is taken for $12-045. What is the value of the property insured, the rate being $\frac{3}{8}$ per cent.?   *Ans.* $12000.

Explanation.—Since the policy covers both property and premium, $12045 is $\frac{3}{8}$ per cent. more than the property.

26. A merchant insures a cargo of goods for $81800, covering both the value of the goods and the premium. What is the value of the goods, the rate of insurance being $2\frac{1}{4}$ per cent.? *Ans.* $80000.

27. My agent at Montreal writes that he has purchased for me 4000 bushels of wheat at 80 cents a bushel, and wishes me to send him a check on Quebec which he can sell to a broker for a premium of $\frac{3}{4}$ per cent. How large a check shall I send him, his commission being 3 per cent ? *Ans.* $3271.464.

28. Foster & Barber sell for S. G. Beatty & Co. 3500 lbs. of butter at 20 cents a lb., 2580 lbs. of cheese at 9 cts. per lb., at a commission of 5 per cent. They invest the balance in dry goods, after deducting their commission of $2\frac{1}{2}$ per cent. for purchasing. How many dollars worth of goods do Beatty & Co. receive ? What is the entire commission of Foster & Barber ? *Ans.* to last $863.99.

29. I received of Brown & Lincoln $560 in uncurrent money to purchase books. I pay a broker $3\frac{1}{2}$ per cent. for current funds, and invest the balance after deducting my commission of 2 per cent. What do I pay for books, and what is my commission ?

Ans. to last, $10.596.

30. A broker bought 5 shares of R. R. stock at 35 per cent. discount, what is the brokerage at 5 per cent. the par value of each share being $100 ? *Ans.* $25.

31. An insurance company insured a block of buildings for $350000 at $\frac{3}{8}$ per cent., but thinking the risk too great, they reinsured $150000 at $\frac{3}{4}$ per cent. in another company, and $100000 of it at $\frac{5}{8}$ per cent. in another. How much premium did the company receive ? How much did it pay to both the other companies ? How much did it clear ? What per cent. of premium did it really receive on the part not *reinsured ?* *Ans.* to last, $\frac{7}{30}$ per cent.

Note.—All property in one block, or in adjacent buildings, having communications, or on one vessel, is considered as *one risk*, and Insurance Companies seldom take more than $10000 in one risk. Some companies of very large capital take $20000, but small companies do not take more than from $3000 to $5000 in one risk.

32. For what sum must a ship valued at $23470 be insured so as, in case of its destruction, to recover both the value of the vessel and the premium of $2\frac{1}{4}$ per cent.? *Ans.* $24010.23.

33. I send to my agent in Manchester $17460 and instruct him to deduct his commission at $3\frac{1}{8}$ per cent,, and invest the balance in broadcloths at $2.95 per yard. When I receive the goods I have to

pay in addition $1347.90 for carriage, $479.40 for insurance, $169.83 for storage, wharfage and harbor dues, and an *ad valorem* duty at $2\frac{1}{2}$ per cent. on the invoice of goods.   Required, how many yards of cloth my agent ships to me, and what I gain or lose per cent. on the whole transaction if I sell the goods for $25000.

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Ans. 5739.29 yds.; gain $25\frac{3}{4}$ per cent.

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34. Bought goods of Foster & Barber, at sundry times, and on different terms of credit, as follows :

Dec.	18, 1874, a bill of $375.50, on 6 months' credit.
Jan.	10, 1875, " 290.60, on 6 " "
March	13, " " 800.00, on 8 " "
April	30, " " 650.80, on 7 " "
June	15, " " 460.25, on 4 " "

What is the equated time for the payment of the whole ?

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Ans. Oct. 8, 1875.

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35. S. G. Beatty & Co. sold goods to J. B. Ashley, at sundry times, and on different terms of credit, as follows :

Sept.	30, 1874, a bill of $ 80.75, on 4 months' credit.
Nov.	3, " " 150.00, on 5 " "
Jan.	1, 1875 " 30.80, on 6 " "
March	10, " " 40.50. on 5 " "
April	25, " " 60.30, on 4 " "

How much will balance the account June 2, 1875 ? *Ans.* $364.04.

Note.—The equated time for the payment of the above account is May 5, 1875 hence the several bills above are equivalent to a bill of $362.35 due May 5.   It is evident that the $362.35 should draw interest* from May 5 to June 2, the time of settlement.   When it is required to know the amount due at any rate *previous* to the equated time, the *present worth* of the sum of the several bills must be found.

36. A merchant sold to one of his customers several bills of goods, as follows :

May	9, 1874 a bill of $340 on 4 months' credit.
June	6, " " 400 on 3 " "
July	8, " " 345 on 5 " "
Aug.	30, " " 130 on 5 " "
Sept.	30, " " 240 on 6 " "

How much money will balance the account Jan. 1, 1875 ?

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Ans. $1466.40.

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*Six per cent is charged when no rate of interest is specified.

37. J. D. Kelly bought of George Ritchie & Co. several bills of goods, as follows :

March 3, 1875, a bill of $250, on 3 months' credit.
April 15, "   "   180, on 4   "   "
June 20, "   "   325, on 3   "   "
Aug. 10, "   "   80, on 3   "   "
Sept. 1, "   "   100, on 4   "   "

What is the equated time of payment, and how much money would balance the account July 1. 1875 ?   *Ans.* Aug. 30 ; $925.65.

38. Purchased goods of a merchant at sundry times and on different terms of credit, as follows :

Nov. 9, 1874, a bill of $ 20.00, on 5 months' credit.
Nov. 30, "   "   50.60, on 3   "   "
Dec. 31, "   "   90.00, on 4   "   "
Feb. 1, 1875, "   120.00, on 3   "   "

What is the average date of *purchase,* and what the average time of *maturity ?*   *Ans.* to first Jan. 4, 1875.

39. A merchant sold goods to one of his customers as stated below :

April 6, 1875, a bill of $450, on 4 months' credit.
May 12, "   "   600,   "   "
June 20, "   "   750,   "   "
Aug. 1, "   "   300,   "   "

When must a note for the whole be made payable ?

Note.—When the sales have the *same* term of credit, as in the above example, it is most convenient to find *first the average date of purchase.* The equated time of payment is then readily found by adding the common term of credit to this average date of purchase. The average date of purchase in the above example is 54 days from April 6, which is May 30 ; the equated time of payment is 4 months from May 30, which is Sept 30.

The days of grace generally allowed may be added to the equated time.

40. Sold W. B. Robinson, on a credit of 90 days, the following bills of goods :

Jan. 10, 1875, a bill of $20.
April 12, "   "   45.
May 27, "   "   60.
June 30, "   "   75.

What is the equated time of payment ?   *Ans.* Aug. 14.

41. On demand, I promise to pay to the order of F. A. King $1650 with interest at 7 per cent. for value received.

J. A. RAPHAEL.

Indorsements.—Sept. 1, 1874, $25 ; Oct. 14, 1874, $150 ; March 20, 1875, $45 ; July 5, 1875, $300.

What was the amount due Nov. 11, 1875 ?

Solution.—Interest on $1650 from May 20, 1874, to Sept. 1, 1874. 3 mos. 12 dys., at 7 per cent. per annum,. $ 32.725

The payment, $25, being less than the interest then due, neglecting the former work, find the interest on $1650 from May 20, 1874, to Oct. 14, 1874, 4 mos. 24 dys.,   46.20

     1650.

Amout due Oct. 14, 1874,   1696.20
Sum of the two payments, $25 and $150, to be deducted, 175.
Balance due after the second payment,   1521.20
Interest on $1521.20 from Oct. 14, 1874, to March 20, 1875, ($46.14), being more than the payment made, find the interest on $1521.20 from Oct. 14, 1874, to July 5, 1875, 8 mos. 21 dys.,   77.201

     1598.401
Sum of the payments, $45 and $300,   345.

Balance due July 5, 1875,   1253.401
Interest on $1253.401 from July 5, 1875, to Nov. 11, 1875, 4 mos; 6 dys.,   30.708
Balance due on settlement, Nov. 11, 1875,   1284.109

Note.—Frequently an estimate of the interest may be made *mentally* with sufficient accuracy to decide whether it be not more than the payment, whereby some labor may be saved.

42. A note of $1200 is dated June 10, 1871, on which,

Aug. 16, 1872, there was paid, $100
Dec. 28, 1872, " " " 200
June 2, 1873, " " " 25
Dec. 29, 1873, " " " 25
June 1, 1874 " " " 25
Oct. 28, 1874, " " " 500

What is the amount due Dec. 10, 1874, the interest being 6 per cent.?

Ans. $551.347.

BELLEVILLE, April 10th, 1869.

43. One year after date, I promise to pay to the order of James Johnson one thousand dollars, with interest at seven per cent, for value received.

I. B. SMITH.

On this note were the following endorsements :

Nov. 10, 1870, rec'd $ 80.50   Jan. 10, 1872, rec'd $450.80
July 5, 1871,   "   100.00   Oct. 1, 1874,   "   500.00
What remained due Jan. 1, 1875 ?   *Ans.* $170.146.

44.   MONTREAL, July 15, 1870.
$650.

Two years after date I promise to pay to the order of Peter Finn six hundred and fifty dollars, with interest at 10 per cent., payable annually, for value received.

W. S. WARREN.

Mr. Warren paid on the above note, Sept. 15, 1872, $105 ; May 9, 1873, $250.   What amount was due Sept. 24, 1874 ?

Note.—In cases like the last, the payments should be applied first to the discharge of the interest *on the annual interest*, then the *annual interest*, and finally the principal.   The interest on the principal which has not yet become *annual interest*, not being due, should not be cancelled by payments except it be at the final settlement of the note.

Solution.

First annual interest,	$65.
Interest on same from July 15, 1871, to Sept. 15, 1872,	7.583
Second annual interest,	65.
Interest on same from July 15, 1872, to Sept. 15, 1872,	1.083
	$138.666
First payment,	105.
	33 666
Interest on $33.666 from Sept. 15, 1872, to May 9, 1873,	2.188
Original principal,	650.
	685.854
Second payment,	250.
New principal,	$435.854
Interest on $650 from July 15, 1872, to May 9, 1873, not due at time of payment,	$53.083
Interest on $435.854 from May 9, to July 15,	7.990
Third annual interest,	61.073
Interest on same from July 15, 1873, to Sept. 24, 1874,	7.278
Fourth annual interest	43.585
Interest on same from July 15, 1874, to Sept. 24, 1874,	.835
Fifth annual interest, due at settlement,	8.354
Amount due Sept. 24, 1874,	$556.979

45. In a certain adventure A put in $12,000 for 4 months, then adding $8,000, he continued the whole 2 months longer ; B put in $25,000, and after 3 months took out $10,000, and continued the rest for 3 months longer ; C put in $35,000 for 2 months, then withdrawing $\frac{2}{7}$ of his stock, continued the remainder for 4 months longer ; they gained $15,000 ; what was the share of each ?

Ans. A. $3,492.06 ; B. $4,761.91 ; C. 6,746.03.

46. Five merchants were in partnership for four years ; the first put in $60, then, 5 months after, $800, and at length $1,500, 4 months before the end of the partnership ; the second put in at first $600, and 6 months after $1,800 ; the third put in $400, and every six months after he added $500 ; the fourth did not contribute till 8 months after the commencement of the partnership ; he then put in $900, and repeated this sum every 6 months ; the fifth put in no capital, but kept the accounts, for which the others agreed to pay him $1.25 a day. What is each one's share of the gain, which was $20,000? *Ans.*$2019.65; $4,871.80; $4,815.81; $6,467.74; $1825.

47th. On the 1st of January, the firm of Bowers & Murphy was insolvent ; and on closing their books, the debit balance against Bowers was $1,437.35, and the debit balance against Murphy, $927,-45. They admit two partners, Thomas Wilson, who invests $4,000 and Henry Brown, who invests $5,000 ; and continue the business, agreeing that the gains and losses shall be divided as follows :—Bowers is to receive or sustain $\frac{1}{6}$ Murphy $\frac{1}{6}$; and Wilson and Brown are to share the remainder in proportion to their average investments. At the end of a year their total resources were $22,543.75, and their total liabilities $7,946.45. Bowers and Murphy had each drawn out, as per agreement, 1,200, for personal expenses. Thomas Wilson drew out as follows :—April 1, $300 ; July I, $500 ; Oct. 1, $700. Henry Brown drew out, April 1, $250 ; July 1 430 ; Oct. 1, $600 ; what was the debit balance against, or credit balance in favor of each partner at the end of the year ?

Ans. Bower's dr., bal. $110.33 ; Murphy's cr. bal., $399.57 ; Wilson's cr. bal. $6,280.47 ; Brown's cr. bal. $8027.59.

48. A, B, and C, hire 10 acres of pasture for 140, in which A grazes 60 head of cattle for 20 days ; B, 20 head for 40 days ; and C, 30 head for 30 days. What proportion of the rent should each pay ? *Ans.* A, $57,93 ; B, 38.62 ; C, 43,45.

49. A and B enter into partnership in business, Jan. 1, 1874, under an agreement that the gains and losses shall be shared equally ; but that each shall be allowed interest, at 6 per cent., on his capital invested, and be charged with interest, at the same rate, on all sums withdrawn. A invested, Jan. 1, $10,000, and March 1st withdrew $3,000. B invested, Jan. 1, $5,000, and April 1, $5,000 more ; and withdrew, July 1, 4,000. On taking an inventory of stock, and closing their books, Jan. 1. 1875, their Total Resources were found to be $29,148.75, and their Total Liabilities, $12,246.25. What did each one gain by interest, and what was his whole gain and net capital at closing ? *Ans.* A. gained by interest $450 ; B $405 ; A's whole gain, $1,973.75 ; B's $1,928.75.

In the following example the time is reckoned by months, as is usual in business, and the gain is computed by percentage.

50. John Jackson, Hiram Dickerson, and William Wilson, entered into partnership, and invested, and drew out as follows :—

John Jackson invested,	July....... 1, 1874.............	$1,000
" " "	November 1, 1874..............	1,500
" " drew out,	April.......1, 1875.............	300
Hiram Dickerson invested,	July.........1, 1874.............	2,500
" " "	January....1, 1875.............	600
" " "	June ....1, 1875..............	1,000
William Wilson invested,	July.........1, 1874.............	3,000
" " drew out,	November 1, 1874.............	2,000
" " "	March......1, 1875.............	500

Their whole gain was $15140, and each partner shares in proportion to his amount of capital invested, and for the time it was employed. What does each partner withdraw July 1st, 1875 ?

<div align="center">

Solution.

</div>

Amt.   Time.

John Jackson invested, July 1, 1874,.............$1000 × 12 = $12000
        Nov. 1, " .... 1500 × 8 = 12000

        24000
Drew out, April 1, 1875........................   300 × 3 =   900

Capital for 1 month................. $23100

Hiram Dickerson invested, July 1, 1874.......... 2500 × 12 = 30000
        Jan. 1, 1875.......... 600 × 6 =   3600
        June 1, 1875.......... 1000 × 1 =   1000

Capital for 1 month................. $34600

William Wilson invested, July 1, 1874............. 3000 × 12 = 36000
Drew out, Nov. 1, 1874,..........$2000 × 8 = 16000

Mar., 1875.............. 500 × 4 = 2000 18000

Capital for 1 month................ $18000

Whole average capital for 1 month......... $75700
$15140 ÷ 75700 = .20 per cent. of gain on the capital for 1 month.

Gain.
Jackson's average investment.........................$23,100 × .20 = $4.620
Dickerson's " " .... 34,600 × .20 = 6,920
Wilson's " " .... 18,000 × .20 = 3,600

Whole gain (proof)................ .... $15,140
Jackson's balance of capital is... 2,200
" share of profit... 4,620

" net capital....... 6,820
Dickerson's balance of capital is........ 4,100
" share of profit.. 6,920

" net capital.. 11,020
Wilson's balance of capital is... 500
" share of profit... 3.600

" net capital.. $4,100

51. A and B are partners. A invested $\frac{2}{5}$ and B $\frac{3}{5}$ of the capital. They are to share equally in gains or losses. At the close of business the resources are : Cash $6,800, Bills Receivable $4,700, Merchandise $6,400, Real Estate $5,000, Bank Stock $900, Steamboat Stock $9,000. A has drawn from the business $365, B has drawn $526. The liabilities are : Firm's Notes unredeemed $4,680, Bal. favor of S. S. Packard $620, J. T. Balkins $476, R. H. Hoadley $326. The net gain during business has been $2,644. What was the firm worth at commencing ? What was each partner worth ?
Ans. Firm $24,945. A $9,978. B $14,967.

52. C, D, and E are partners. C invested $\frac{1}{8}$, D $\frac{3}{8}$, and E $\frac{4}{8}$, to share the gain or losses eqaully. At the close of business the resources are found to be : Wheat on hand valued at $2,600, Corn on hand $3,200, Flour $1,600, Mill and fixtures $8,000. The firm owe Digby V. Bell $2,600, to J. H. Goldsmith $1,500 and on their Notes unredeemed $949. The net loss in the business has been $633. What was the net capital of the firm at commencing ? What was each partner's net capital ?
Ans. Firm $10,984. C $1,373. D $4,119. E $5,492.

53. There are four partners engaged in business as a firm, F, G, H, and I. They have been unfortunate, the net loss being $15,-320. On examination the resources are found to be as follows, viz. : Live cattle on hand valued at $9,680, Packed Beef valued at $12,-

600, Empty Barrels on hand valued at $500, Deposit in Drovers Bank $2,500. The firm owe on their Notes and Acceptances $22,-600, Warren P. Spencer on account $4,000, J. C. Bryant on account $6,000. The partners invested in equal amounts and are to share the gains or losses in the same proportion. What was the investment of the firm? What was each partner's investment?

Ans. Firm $8,000 ; F $2,000 ; G $2,000 ; H $2,000 ; I $2,000.

To find what extension should be granted to the ballance of a debt partial payments having been made before the debt was due.

54. A owed B $1200, due in 6 months, but to accomodate him paid $400 in 2 months. When ought the balance to be paid?

Ans. in 8 months.

Explanation.—Since A paid B $400 four months *before* it was due, B, at the close of the 6 months, owed A the interest of $1 for 400×4 months $= 1600$ months. To balance this interest due A, he can keep the $800 unpaid $\frac{1}{800}$ of 1600 months $= 2$ months after the debt is due.

55. Jones & Brown sold Wm. Wills, June 10, 1874 goods to the amount of $1300, on 6 months credit Aug. 20, Mr. Wills paid $200 ; Sept. 18, $250 ; Oct, 30, $350. When, in equity, ought the balance to be paid?

Operation.

days.

$$200 \times 112 = 22400$$
$$250 \times 83 = 20750$$
$$350 \times 41 = 14350$$

$$\overline{\$800 \qquad 57500}$$
$$57500 \div 500 = 115$$

The balance ought to be paid 115 days from Dec. 10, 1874 which is April 4, 1875.

RULE.—*Multiply each payment by the time it was paid before due, and divide the sum of the products by the balance unpaid.*

56. A sold B, July 1, 1874 goods to the amount of $1500, on a credit of 90 days. Aug 5, B paid $400 ; Sept. 3, $600 ; Sept. 15, $300. When ought B to pay the balance.

Ans. April 26, 1875.

57. A merchant sells a customer to the amount of $600, $\frac{1}{2}$ of which is to be paid in 3 months, $\frac{1}{3}$ in 4 months, and the balance in 7 months. The customer pays $\frac{1}{2}$ down. How long may he keep, in equity, the remainder?

Ans. 8 months.

58. A owes B $600, payable in 6 months. At the close of 3 months he wishes to make a payment so as to extend the time of the balance to one year. How great a payment must B make?

<div align="right">*Ans.* $400.</div>

Explanation.—B wishes to pay such a sum of money three months *before* it is due, as will extend another sum 6 months *after* it is due. It is evident the sum *paid* must be twice as great as the sum *extended*. Divide $600 into two parts, which shall be to each other as 2 to 1.

59. A owes B $1000, payable in 6 months. At the close of 2 months A pays B $1200, and B gives A his note for the balance. When ought the note to be dated? *Ans.* 24 months back.

Explanation.—Since B paid A $1200 four months before the $1000 was due, A, at the close of the 6 months, owed B the interest of $1200 for 4 months, or $1 for 4800 months. It is evident that a note for the balance, $1200—$1000=$200 must be dated one-two-hundredths of 4800 months, or 24 months *previous* to the time the $1000 was due.

60. July 10, 1875, A paid B $600; Sept. 12, 1875, B paid A $800. When ought A to pay the balance?

Explanation.—Sept. 12, B owed A $600+its interest for 64 days. He paid A $600+$200. Hence, A is entitled to the use of the balance ($200) until its interest equals the interest of $600 for 64 days, or 192 days. 192 days from Sept. 12, 1875, is March 23, 1876.

61. July 10, 1875, A paid B $800; Sept. 12, 1875, B paid A $600. What should be the date of a note for the balance?

62. A and B are partners. A is to share $\frac{2}{5}$ of the gain or loss, and B $\frac{3}{5}$. At the close of business the following is shown to be the condition of their affairs, viz.: Cash on hand $2680. Bills receivable on hand $3620. Five shares Montreal Bank Stock valued at $520. House and lot valued at $6000. Sturgis & Co. owe on account $1800. The firm owe on notes outstanding $2840. They owe G. P. Carey on account $890. A invested $4610. B invested $4860.

What is A's interest in the concern? *Ans.* A $5178.
    "   B's   "   "   "   B $5712.

Note.—In the following examples the resources are supposed to be brought in at their actual cash value. No interest is allowed on the partners' accounts unless so specified.

63. C, D and E are partners, To share the gains or losses each one third. The resources and libilities at the close of the year are found to be as follows, viz.: Money deposited in Bank $8460. Mining Stock valued at $10240. Bills Receivable on hand $6420. Bank Stock on hand valued at $3826. Block of buldings and Lot

valued at $35000. Hall & Co. owe on account $1344. L. M. How owes on account $960. The firm owe on their notes unredeemed $5680. To Mason & Co on account $1700. C invested $18420. D invested $18460. E invested $18432. What is each partner's present interest in the concern !

Ans. C $19606, D $19646, E $19618.

64. F, G, H, and I are partners. They share the gains or losses as follows, viz.: F and G $\frac{1}{4}$ each, H $\frac{1}{3}$ and I $\frac{1}{6}$. At the close of business the resources are Cash $4628, Merchandise $12620, Real Estate, $5000, Bank Stock $3000, Wheat and Corn $2800, Horses and Harness $500, Lumber $520, Money deposited in Merchants Bank $8620. F has drawn from the business $450, H has drawn $180. The liabilities of the concern are, Notes unredeemed $4600, due Simon & Co. on account $800, due S. S. Jones on account $1200. F invested $6682. G invested $6682. H invested $8908. I invested $4454. What is each partner's interest in the concern ?

Ans. F, $7480 ; G, $7930 . H, $10392 ; I, $5286.

65. J, K, L, M, and N are partners. The gain or loss is to be divided as follows : J $\frac{5}{15}$, K $\frac{4}{15}$, L $\frac{3}{15}$, M $\frac{2}{15}$, N $\frac{1}{15}$. Upon examination the following is found to be the condition of affairs at the close of business, viz.: Notes on hand against other parties $12680, R. R. Stocks $8420, Town Debentures, $6000, Bank Stock $2800, Bonds and Mortgages $9460, Deposit in College Bank $6742, R. C. Bank owes the firm $4286, Brown and Bros. owe $1520, Interest on Notes, and Bonds and Mortgages in the hands of the firm $688. Office Furniture on hand valued at $824. The liabilities of the concern are as follows, viz. : Notes and Acceptances outstanding $5486, Interest due on firm's Notes and Acceptances $280, Bal, favor Trader's Bank $2626, Bal. favor of Merchants Bank $1500, N invested $2287, M invested $4575, K investd $9150, L invested $6861, J invested $11455. What has been the Net Gain ? What is J's interest in the concern ? K's ? L's ? M's ? N's ?

EXAMINATION PAPERS.

EXAMINATION NO. 1.

Fifteen questions are given in the Final Examination on Arithmetic, and each student is required to work, at least, twelve of them correctly in order to pass the examination.

The following are Examination Papers formerly used which will serve as an example of the problems you may expect.

1. Find the interest on $574.80 for 1 year 7 months and 27 days at 8 per cent. per annum.   *Ans.* $76.2568.

2. What sum must I put on the face of of a note, payable in 90 days, so that I may obtain $425 when discounted at the Bank at 7 per cent. ?   *Ans.* $432.826.

3. What must be the asking price of raisins costing $7.364 per box, that I may fall 10 per cent. of it and still gain 10 per cent. on the cost, allowing 10 per cent of sales to be in bad debts ?

                                                            Ans. $10.

4. My retail price for broadcloth is $4.75 per yard, by which I make a profit of $33\frac{1}{3}$ per cent. I sell a wholesale customer 100 yards at a discount of 30 per cent. from the retail price. What per cent. do I gain or lose, and what do I receive per yard ?

                              Ans. $6\frac{2}{3}$ per cent. ; 3.32\frac{1}{2}$ per yard.

5. A merchant failing owes A $800, B $500, and C $1000. His property is valued at $1850. What will each Cr. receive ?

                        Ans. A $643.470 ; B $402.18 ; C $804.35.

6. Remited my agent in N. Y. $1000 in gold with instructions to deduct his com. at 2 per cent. and invest the remainder in flour then selling at $7.50 per barrel U. S. currency. How many barrels of flour should I recieve ; gold being quoted $1.20.   *Ans.* $156 \frac{647}{750}$

7. I have recived from my correspondent in London £275 Stirling with instructions to deduct my commisson at 3 per cent. and invest the balance in Canadian Tweeds, worth $1.20 per yard. How many yds should I send him ?   *Ans.* $1082 \frac{13}{15}$

8. For what sum must I insure a cargo valued at $2.000, so that in case the whole is lost I may recover both the value of the property and the premium of 3 per cent,   *Ans.* $2061.8554.

9. Two persons A and B enter into copartnership agreeing to share gains and losses according to capital invested. A put in $2500 and B $1200 after they were in business 7 months A withdrew $1000 and B invested $500 more, at the end of the year they have gained $3150. How should it be divided?

Ans. A $1879.474 ; B 1270.525

10. What is the Compound Interert on $1000 for 4 years at 5 per cent per annum?   *Ans.* $215.506

11. A vessel in her passage from Quebec to Liverpool, became stranded, when it was found necessary to throw overboard 1500 barrels of flour, worth $7.80 per barrel, belonging to J. S. Miller. The contributory interests of the vessel were as follows. Holton & Co. had on board Mdse. $9500 Ritchie & Co. had on board Mdse. $6500 N. Jones. had on board Mdse. 10000 The value of the Vessel was $45000. Net freight $7000. Amount paid another vessel for assistance $900. Seamen's wages and board $450. Expense of supplying new rigging $1500. How much should J. S. Miller, receive for the flour thrown overboard?

Vns. $9°67.40

12. J. Collins in account with W. Ponton,

Dr.			Cr.		
Jan. 1, to Mdse. $1000 on 3 months credit.			Jan. 30 Cash $800		
Mar. 20, " 2000 on 4 " "			Feb. 1 " 1000		
May. 1, " 500 on 3 " "			April 1 " 200		

When should a note be dated to balance above account?

Ans. Dec. 20.

13. There are two bins the one 4 ft. 6 in. long, 4 ft. wide, and 3 ft. 6 in deep, and the other 5 ft. 4 in. long, 4 ft wide, and 3 ft 6 in deep. How many bushels will be left after filling these bins from a pile on the floor in the shape of a cone 12 ft. in diameter and 8 ft. high?   *Ans.* 131.141 bush.

14. What is the capacity of a circular cistern 9 ft. deep, and 7 ft, in diameter. How many barrels will it hold?

Ans. 68.525

15. What is the storage on flour at 3 cts. per barrel per month received and delivered as follows :

Received.	Delivered.
Jan. 1,.. ... 400 bushels.	Jan. 30,.. .. 800 bushels.
Jan. 24,.. ... 600 "	March 4,... ..1100 "
Feb. 8,.. ..1000 "	June 6,.. .. 300 "
Feb. 20,.. .. 400 "	July 1,... .. 40 "
May. 4,.. ... 50 "	

What is the amount of the above bill rendered Sep. 1st and how many barrels of flour on hand ?   *Ans.* $118.52 am't. of bill.

EXAMINATION, NO. 2.

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1. Find the interest on $784.50 for 2 yrs. 11 mo. 19 dys. at 7 per cent. per annum.   *Ans.* $163.067

2. What sum must I put on the face of a note, in order that I may recieve $340.50 when discounted at a bank, at 7 per cent. per annum. The note being drawn for 3 mos. ?

Ans. $346.77

3. What is the Compound interest on $256, for 3 years at 6 per cent. payable annually ?   *Ans,* $48.899

4. $116.67.   BELLEVILLE, May 1st 1865

On demand I promise to pay John Smith, or bearer, one hundred and sixteen dollars and sixty seven cents with interest, for value received.

On this note were the following indorsements :

Dec. 25, 1865, rec'd. $16.66	July 10, 1866, rec'd. $ 1.67
Sep. 1, 1867, " 5.00	June 14, 1868, " 33.33
Apr. 15, 1869, " 62.00	

What was due Aug. 3rd, 1870 ?   *Ans.* $23.78 9.

5. Three graziers A, B, and C, hold a piece of ground in common, for which, they are to pay $75 a year. A, on the 1st. of Jan. puts in 12 sheep, on the 1st. of March, 8 more, and on the 1st. June takes out 10. B, on the 1st. of Jan. puts in 15 ; on the

first of Feb. takes out 6, and on the 1st. of July puts in 12 more. C, on the 1st. of Feb. puts in 14, on the first of Apr. 4 and on the 1st. of Aug. takes out 9. How much of the rent ought each to pay at the end of the year?

Ans. A, $23.814 ; B, $28.762 ; C, 22.422.

6. Received from my correspondent, London, £264, 16s., 10d., Stirling with instructions to deduct my commission at 3 per cent. and invest, the balance in Canadian Tweed, worth $1.25 per yard. How many yards should I send him? Ans. 1001.15 yds.

7. Remitted my agent in N. Y. $2340 in gold, instructing him to deduct his commission at 2 per cent. and invest the balance in Flour worth $7 per barrel U. S. Currencey. How many barrels should I recieve? Gold worth $1.10.

Ans. 360.504 barrels

8. I bought a quantity of tea at $1 per lb. Allowing that the tea will fall short 10 per cent. in weighing it out, and that 15 per cent. of the sales will be in bad debts, for how much per lb. must I sell it to make a clear gain of 20 per cent. on cost?

Ans. $1.568

9. If I own a vessel valued at $7493, and I wish to insure it at a premium of $4\frac{3}{5}$ per cent. so as to recover, in case of the destruction of the vessel, both the premium paid and the value of the vessel, for what sum must I insure. Ans. 7854.29

10. A merchant asked for a quatity of goods 30 per cent. more than they cost him, but becoming damaged he was obliged to sell them at 12 per cent less than his asking price. He gained $150 by the transaction. What was his asking price, and for what did he sell them? Ans. $1354.166, asking ; $1191.666, selling price.

11. What is the storage on wheat at 3 cents per bush. per month, received and delivered as follows :

Received	Delivered
Jan. 1, 900 bushels	Jan 28, 2500 bushels
Jan. 9, 1200 "	Jan. 31, 400 "
Jan. 14, 800 "	Feb. 27, 6000 "
Feb. 8, 1500 "	Mar. 8, 1500 "
Feb. 12, 1000 "	
Feb. 26, 400() "	
Mar. 1, 2000 "	

Account rendered June 1. Ans. $210.50.

12. Sold Flour on Commission at 4 per cent. and invested the net proceeds less my commission at 3 per cent. in Salt. My whole commission was $250. What was the value of the flour and the salt ?   *Ans.* $3678.57 flour ; $3428.57 salt.

13. M. Grass in account with E. Roy.

Dr.			Cr.		
Jan. 1, to Mdse. $ 800			May 1, by cash $ 850		
Jan. 28, " 2000			May 29, " 1000		
Feb. 1, " 1000			Aug. 1, " 1500		

Account rendered Oct. 1, 1871. When does the balance average due ?   *Ans.* Jan. 7, 1868.

14. A steamer in her passage from Quebec to Liverpool became stranded when it was found necessary to throw overboard goods be-longing to Turner & Co. to the amount of $1000. The contributory interests were as follows :—Value of vessel $5500 ; J. Smith & Co. Mdse. $4000 ; Hampden & Co. Mdse. $3000 ; Turner & Co. Mdse. $2000 ; Salvage paid, $400 ; Seamens wages, $800 ; supplying new rigging, $900. What per cent. of their goods must each contribute towards the loss ?   *Ans.* 4 per cent.

15. There are four persons engaged in business as a firm, A, B, C, and D. They have been unfortunate the net loss being $15320. On examination the resources are found to be as follows, viz. ; Live Cattle valued at $9680. Packed beef $12600. Empty Barrels on hand valued at $500. Deposit in Drovers' Bank $2500. The firm owe on Notes $22600. S. G. Beatty on account $4000. W. B. Robinson on account $6000. The partners invested in equal amounts, and are to share the gains or losses in the same propor-tion. What was the investment of the firm ? What was each part-ners' investment ?   *Ans.* Firm 8000. Each partner $2000.

EXAMINATION NO. 3.

1st. A Grocer mixes 50 lbs. of Sugar at 10cts per lb. with 35 lbs. at 12cts and 42 lbs. at 13cts What is the mixture worth per lb ?   *Ans.* .1154cts.

2. What is the interest on $450 for 1 yr. 11 mo. and 29 dys. at 9 per cent. per annum? *Ans.* 80.8875

3. Bought 50 gal. Wine at 92cts per gall. by accident 10 gal. leaked out. How much must I sell the remainder for in order to gain 10 per cent. on the whole cost. *Ans.* $1.26.

4. What is the capacity in barrels of a circular cistern, 9 feet deep, and 7 feet in diameter. *Ans.* 68.52 barrels.

5. A, and B, enter into copartnership agreeing to share gains and loses according to capital invested. A put in $4000, and B $2540. At the end of 4 months A withdrew $500 and B invested $600 At the end of the year they have gained $3000 How should it be divided. *Ans.* A 1664.99 B 1335.01

6. There is a conical pile of grain on the floor 12 ft. in diameter and 7 ft. high How many bushels will be left after filling 2 bins, one 5 ft. 4 in. long, 3 ft. 6 in. wide, and 3 ft. deep. The other 5 ft. long, 3 ft. wide, and 3 ft. deep? *Ans.* 126.89.

7. My retail price for broadcloth is $4.75 per yd. by which I make a profit of 33⅓ per cent. I sell a wholesale customer 100 yds. at a discount of 30 per cent. from the retail price. What per cent do I gain or lose, and what do I receive per yd.

Ans. Lose 6⅔ per cent. Recd. $3.325 per yds.

8. A Steamer in her passage from Quebec to Liverpool became stranded when it was found necessary to thow overboard 5000 bbls. of flour belonging to Conger Bros. worth $6.87 per bbl. The expense of getting the vessel off $300. seamens wages and board $200, supplying new rigging $1500. The vessel was worth $30.000 net freight $3000 goods on board belonging to different merchants amounting to $80000. How much should Conger Bros. receive for their flour? *Ans.* $23452.26.

9. How much will the following lumber cost at $20 per thousand ft. Nine Planks 14 ft. long 1½ in. thick.

Width 17 inches one end 19 inches the other

"	24	"	"	"	20	"	"	"
"	19	"	"	"	23	"	"	"
"	16	"	"	"	20	"	"	"
"	18	"	"	"	22	"		
"	21	"	"	"	23	"		
"	13	"	"	"	15	"		
"	17	"	"	"	21	"	"	
"	12	"	"	"	14	"	"	

Ans. $5.84.

10. What is the compound interest on $1800 for 5 years at 9 per cent. per annum ?   *Ans.* $608.806.

11. Holton & Co., in account with James McKay.

Dr.   Cr.
Jan. 1, to Mdse. $ 3,000,   April 4, By cash $ 2,000
Mar. 1,   "   1,000,   Aug. 15,   "   1,000
May 1st,   "   2,000,   Nov. 4,   "   1,000

When should a note be dated to balance the above account, all goods being purchased on credit of 3 months ?

Ans. March 5.

12. What is the cost of storage at 3c per barrel, per month on flour, received and delivered as follows :

Received.   Delivered.
June 1,   400 barrels   Aug. 4, 1,000 barrels
 "   12,   300   "   "   30,   500   "
 "   26,   100   "   Sep. 1,   500   "
July 1,   700   "
 "   20,   800   "

What is the amount of the above account and how many barrels remain on hand Oct, 1st?

Ans. 300 bbls., $125.60.

13. I hold a note of $400 dated August 2nd 1867 bearing interest at 6 per cent., and upon which are the following endorsements :—April 2nd, 1868, $50 , June 2nd, 1868, $30 ; Jan. 2nd, 1869, $100. How much remains due March 24th, 1870.

Ans. $269.27.

14. Received from my correspondent in New York $2,000, U. S. currency, with instructions to deduct my commission at $2\frac{1}{2}$ per cent. and invest the remainder in Canadian Tweeds worth $1.15 per yd. How many yds. should I send him ? Gold being quoted at $1.14 ?   *Ans.* $1488.34.

15. Remitted my agent in London, $2,150 Canadian Currency with instructions to deduct his commission at 2 per cent. and invest the remainder in flour, selling at £1, 10s., 6d., Sterling. How many barrels should he send ?

Ans. 284 nearly.

EXAMINATION NO. 4

1. What is the true discount on a note of $1500 due 60 days hence, discount at 6 per cent. per annum.

Ans. $14.85.

2. A owes B $1200 payable as follows, $100 in 30 days; $400 in 60 days; and $700 in 90 days. When will the entire debt average due? *Ans.* in 75 days.

3. A and B commence business with a joint capital of $10,000, A is to receive $\frac{3}{4}$ and B $\frac{1}{4}$ of the net gain. At the close of the year, the Resources and Liabilities stand as follows:

Resources		Liabilities	
Cash	$8000	Bills Payable	$3000
Merchandise	7000	Personal ac't. Pay.	1500
Bills Receivable	2000		
Personal ac't. Rec.	1000		

What proportion of the net resource belongs to each partner?

4. What will be the storage of flour at 5 cents per barrel, per month, received and delivered as follows:—Received 11th of Jan., 1869, 1300 bbls.; 19th Feb., 700 bbls.; 15th March, 1500. Delivered 29th Jan., 1000 bbls.; 28th Feb., 900 bbls.; 25th March, 1600? *Ans.* 93.66\frac{2}{3}$.

5. An insolvent is liable to A for $700, to B for $1000, and to C for $2300. His net worth is $2500. What amount should each creditor receive? *Ans.* A, $437.50; B, $625; C, $1437.50.

6. What is the interest of $1496 for 2 years 7 months and 18 days at 6 per cent.? *Ans.* $236.368.

7. A carriage was sold for $500, by which a gain of 20 per cent. was made. What was the cost? *Ans.* 416.66\frac{2}{3}$.

8. I own a vessel valued at $7,493, and wish to insure it at a premium of $4\frac{3}{5}$ per cent., so as to recover, in case of the destruction of the vessel, both the premium paid and the value of the vessel, for what sum must I insure? *Ans.* $7,854.29.

9. Reduce £749, 16s., 5$\frac{3}{4}$d., sterling to dollars and cents.

Ans. $3,649.393.

10. Mr. A invests $44,400 in stocks, and sells out for $50,000. What per cent. does he make by the operation ? *Ans.* 12.6.

11. A ship in her voyage from New York to Glasgow became stranded, when it was found necessary to throw overboard goods to the amount of $8000. The expense of getting the vessel off was $600 ; of supplying new rigging $1200. The ship is worth $30,000. Net Freigho $2000. Holton & Co. had on board goods worth $16000 ; Ritchie & Co., goods worth $12000 ; Conger Bros., goods worth $10,000 ; Warner Bros., goods worth $2,000. What does each interest contribute towards the loss, and what is the rate per cent. on the contributory interests ?

Ans. Ship, $4548.36 ; average loss, $15\frac{5}{31}$ per cent. ; Holton & Co., $909.672.

12. Received from my correspondent in New York, $1,000 U. S. currency, with instructions to deduct my commission at 3 per cent., and invest the remainder in Canadian Tweeds, worth $1.25 per yard. How many yards should I send him, gold being quoted at $1.15 ? *Ans.* 675.391.

13. I hold a note of $600, dated January 1st, 1867, bearing interest at 6 per cent., and upon which are the following endorsements :—March 1st, 1868, $200 ; May 1st, 1869, $200. How much is due Jan. 1st, 1870. *Ans.* $283.85.

14. A grocer mixes 20 lbs of sugar at 10c. with 80 lbs at $12\frac{1}{2}$c, 40 lbs at 13c. What is 1 lb. of the mixture worth ?

Ans. 12.28c.

15. I have a conicle pile of grain on the floor 12 ft. in diameter and 8 ft. high. How much will be left after filling a bin 10 ft. long, 7 ft. 6 in. wide and 4 ft. deep ? *Ans.* 1.2748.

EXAMINATION NO. 5.

1. If 25 lbs. of tea worth 60c. per lb. be mixed with 25 lbs. worth 36c. and 40 lbs worth 75c. What is 1 lb of the mixture worth?

Ans. 60c.

2. A house which cost $4,800 rents above expenses for $264 per year. What per cent. does it pay on the investment ?

Ans. $5\frac{1}{2}$.

3. What sum must I put on the face of a note drawn at 60 days, in order that I may receive $1,295 when discounted at the bank at 6 per cent. per annum? *Ans.* $1,308.74.

4. If I owe $400 payable in 6 months, and pay $100 immediately, how long may I keep the balance as an equivalent?

Ans. 8 months.

5. I invested in wheat the proceeds of a consignment of Flour, less my commission on both, at 3 per cent., which amounts to $60. What did I sell the flour for, and what did I pay for the wheat?

Ans. Flour $1030 ; wheat $970.

6. A merchant purchased goods January 6th, amounting to $900, $300 payable in 6 months. $300 in 8 months and 300 in 10 months. When may the whole be paid without loss to either?

Ans. 8 months.

7. John Smith in account with W. Jones.

Dr.	Cr.
May 22, $300	May 27, $200
June 1, 150	June 6, 100
July 11, 200	July 10, 120

When should a note be given to balance the above?

Ans. June 5.

8. If I own 100 shares of R. R. stock, the par value of which is $50 a share, how much will I receive when a dividend of 5 per cent. is declared? *Ans.* $250.

9. Remitted my agent in New York $1,000 Canadian currency, with instructions to deduct his commission at 2½ per cent., and invest the balance in flour, at $8.50 per barrel U. S. currency. How many barrels should I receive?

Ans. 149.2

10. Received from my correspondent in London £100, 19s., 6d., sterling with instructions to deduct my commission at 3 per cent., and invest the balance in Canadian Tweed, worth $1.10 per yard. How many yards should I send him?

Ans. 433.75.

11. A merchant marked a piece of goods 25 per cent. more than it cost him, but being anxious to effect a sale, and supposing he should still gain 5 per cent., sold it at a discount of 20 per cent. from his marked price. Did he gain or lose?

Ans. Neither.

12. For what must I get a cargo worth $15,000 insured, so that in case the whole is lost I may recover not only the value of the property but also the premium of $2\frac{1}{2}$ per cent. ?

Ans. $15384.61.

13. Account of storage of wheat at 1c. per bushel, per month, received and delivered as follows :

Received	Delivered
July 2, 200 bushels	July 11, 150 bushels
July 16, 350 "	July 21, 300 "
Aug. 10, 400 "	Aug. 15, 450 "
Sep. 5, 200 "	Aug. 20, 50 "
Sep. 10, 100 "	Sep, 15, 200 "

Account closed Oct. 2.   *Ans.* $4.33.

14. How much grain will be left in a conical pile on the floor 10 ft. in diameter and 6 ft. high after filling a bin 6 ft. long, 5 ft. wide, and 4 ft. deep ?   *Ans.* 28.86.

15. A & B having been in business 1 year dissolved partnership, B retires leaving A to continue the business and liquidate the debts of the firm.   A invested $12,000, B $10,000.   Each is to receive interest on his investment at 6 per cent. and share the gains and losses equally.   How much should A pay B on retiring the resources and liabilities being as follows ?

Resources.		Liabilities.	
Cash on hand,	$ 5000	Personal ac'ct. Payable $8170	
Personal ac'ct. Rec.,	12000	Bills Payable,	4200
Less 25 % for bad debts,		Interest on same,	130
Mdse. Inventory,	16530		
Bills Recivable,	3500		
Mortgages Receivable,	4000		
Interest on same,	120		
Real Estate,	6500		
Store Fixtures,	350		

Ans. $15,190.

EXAMINATION, NO 6.

1. Find the interest on $1496.50 for 2 yrs. 4 mos. 26 dys. at 8 per cent. per annum. *Ans.* $287.99.

2. If 40 lbs. of tea at 60 cts, 25 lbs. at 55 cts., and 45 lbs. at 65 cts. be compounded, what is 1 pound of the mixture worth ?
Ans. $60\frac{10}{11}$ cts.

3. What amount must be put on the face of a note so as to receive $960 when discounted at the Bank for 3 months at 8 per cent. per annum. *Aus.* $980.26.

4. I send my agent in New York $2500 in gold instructing him to deduct his commission at $3\frac{1}{3}$ per cent. and invest the balance in broadcloths at $3.75 per yard, U. S. Currency. How many yds. does he send me, gold quoted at 1.09\frac{1}{2}$? *Ans.* 706 $\frac{169}{375}$.

5. Purchased goods to the amount of £387 16s. 9d., sterling. How many dollars will it take to pay for them ?
Ans. $1887.48.

6. How many pails of water, each containing 10 quarts, will a circular cistern hold whose diameter is 6 ft. and depth $7\frac{1}{2}$ ft. ?
Ans. 528.626.

7. How many bush. of grain will be left from a conical pile $12\frac{1}{2}$ ft. in diameter and $6\frac{1}{2}$ ft. high after filling a bin 8 ft. long $4\frac{1}{2}$ ft. wide and 5 ft. deep ? *Aus.* 66.9.

8. I have a note of $1475 bearing interest at 7 per cent. dated Aug. 13, 1872, having on it the following endorsements :—March 12, 1873, $150 ; Sept. 20, 1873, $240; July 16, 1874, $100 ; Jan. 1, 1875, $300. How much will it take to redeem the note March 1, 1875. *Ans.* $912.26.

9. John Smith in account with B. H. Jones.

Dr.				Cr.		
Jan. 1, 1874,	to Mdse.	$1000		April 5, 1874,	$	600
Feb. 16,	" "	800		June 16,	"	500
Apr. 20,	" "	2600		Aug. 20,	"	2400
Aug. 16,	" "	1200				

When should a note be dated to balance the above account ?
Ans. Nov. 15, 1873.

10. For how much must I insure property worth $3780 so that if lost I may recover the value of the property and premium of 3½ per cent. ?   *Ans.* $3904.96.

11. What is the storage on flour at 2 cents per bbl., per month, received and delivered as follows :

Received	Delivered
April 1, 600 barrels	April 12, 400 barrels
April 20, 300 "	May 10, 200 "
May 16, 400 "	May 30, 300 "
June 30, 500 "	June 12, 200 "
	July 20, 700 "

Account rendered July 20 ?   *Ans.* $35.06⅔.

12. A steamer became stranded and there was thrown overboard goods to the amount of $1650. The value of vessel $48,000. Goods belonging to Jones & Co., $4500 ; to Smith, $6000 ; to Cook, $5400; net freight, $2500. The cost of repairing vessel, $1200. Seamen's wages, $400. Salvage, $350. What per cent. of the loss does each sustain ?   *Ans.* 4⅍ per cent.

13. Bought goods for $240 for how much must I sell then to make a clear gain of 15 per cent. allowing 12 per cent. for bad debts in sales.   *Ans.* $313.636.

14. A and B enter into partnership agreeing to share gains or losses according to Capital invested. A invests $6500, B $5400. At the end of 5 months A withdrew $700, and B invested $400. At the end of the year they have gained $4200. How should it be divided ?   *Ans.* A $2182.09 ; B $2017.91.

15. My retail price for cloth is $3.75 per yard, by which I make a profit of 33⅓ cents. I sell to a wholesale at 20 per cent. discount from retail price. How much do I gain or lose per cent., and what do I receive per yard ?   *Ans.* $3 ; gain 6⅔ per cent.